

### **Definition**

Establishing woody plants by planting.

### **Purpose**

To establish woody plants for enhancing aesthetics.

### **Criteria**

Select tree and shrub species adapted to local soil, site, and space conditions that will accomplish the landowner's objectives.



### **Species Selection**

When determining what species to plant, it is important to consider the following: function, location, soil conditions, and pest and environmental problems.

### **Plant Function**

Most plants in landscaped areas are selected for their amenity value, that is, they serve to make our lives more agreeable, and pleasant by increasing physical or material comfort and, at the same time, increasing the value of residential and commercial real estate. A tree that is large at maturity will provide shade. An ornamental plant may have beautiful flowers, leaves, or bark. Plants with dense, persistent leaves will provide a windbreak, a screen, or privacy. Plants that drop their leaves in the fall allow the sun to warm buildings in winter. A tree or shrub that produces fruit will attract birds and wildlife. A landscape plan that is prepared for a property should be designed to get the greatest benefit from each plant.

### **Plant Location**

Trees and shrubs are living organisms that grow larger each year in height, crown width, and in size of root system. Consult publications to see what size the tree will be at maturity before selecting a species. A common mistake is to plant too many trees or shrubs in a limited space. They look good at first but soon will become overcrowded. Consider mature tree shape. Trees vary in height, width and branching pattern. Trees and shrubs may be short or tall. Crowns may be columnar, oval, rounded, pyramidal, upright, or wide spreading. Overhead utility lines will restrict selection to small trees or shrubs. Plants with low spreading branches are appropriate for screens, but not for placement along street where good visibility is essential. The amount of sunlight available will affect tree and shrub species selection for a particular location. Most woody plants require full sunlight for proper growth and bloom; some others do well in light shade. Few tree species perform well in dense shade. Reflected light and heat and soil compaction from buildings and pavement will also affect plant growth and vigor.



### **Soil Conditions**

The amount/volume of soil and quality of soil in a given area can limit planting success. In their natural environment, tree and shrub roots grow in topsoil. This is often deep, well-drained soil that contains mineral elements, air, water, and organic matter required for adequate growth. In

urban areas, the topsoil has often been disturbed and is frequently shallow, compacted and subject to drought. Under these conditions, plants are continually under stress. Proper maintenance is necessary to ensure adequate growth and survival. The physical aspects of the soil are as important as the chemical aspects, but the chemical aspects can be more easily managed. The physical aspects include soil profile, texture, compaction, and water holding capacity. Texture is a major factor in establishing water holding capacity. Under optimum conditions for best plant growth, the pore space in the soil should be 50% air and 50% water. Compaction increases stress by reducing the availability of oxygen to roots. The chemical aspects of the soil include available nutrients, soil pH, and organic matter content. Soil tests are helpful in establishing the physical and chemical conditions of the soil. A pH of 5.5 to 6.5 is optimum for most trees and shrubs. Soil moisture should also be considered.



### **Pest and Environmental Problems**

Insect pests and disease organisms affect almost every tree and shrub species. Fortunately, these are usually not life threatening to the plant. Every locality has its particular pest problems and their severity varies geographically. Select plants to minimize pest problems. Environmental problems

(temperature, moisture, soil, light, plant competition, pesticides) are more likely to affect plant growth than insects or disease. Zones of hardiness have been established and many sale tags and catalogs specify a hardiness range.

### **Where to Get Help**

If after reviewing this fact sheet you would like technical assistance completing an ornamental tree/shrub planting on your property, you should contact your local NRCS office at:

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Assistance can also be obtained from West Virginia Division of Forestry (WVDOF) service foresters and other professional foresters.

**Note: The information in this fact sheet does not meet the plans and specification requirements of NRCS Practice Standard 612 – Tree/Shrub Establishment**

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